Journal of Pharmacokinetics and Biopharmaceutics

Vol. 19, No. 1 **February 1991**

CONTENTS

Sensitivity Analysis for Physiologically Based Pharmacokinetic Models 1
D. M. Hetrick, A. M. Jarabek, and C. C. Travis

Physiologic Modeling of Cyclosporin Kinetics in Rat and Man 21
Alberto Bernareggi and Malcolm Rowland

Moment Analysis of Drug Disposition in Kidney. V: *In Vivo* Transepithelial Transport of *p*-Aminohippurate in Rat Kidney 51
Ryohei Hori, Yan-Ling He, Yoshihiro Saito, Akira Kamiya, and Yusuke Tanigawara

Analysis of Arterial–Venous Blood Concentration Difference of Drugs Based on Recirculatory Theory with Fast Inverse Laplace Transform (FILT) 71
Yoshitaka Yano, Kiyoshi Yamaoka, Hiroyuki Yasui, and Terumichi Nakagawa

PHARMACOMETRICS

An Evaluation of Point and Interval Estimates in Population Pharmacokinetics Using Nonmem Analysis 87
Donald B. White, Cynthia A. Walawander, Ying Tung, and Thaddeus H. Grasela

SHORT COMMUNICATION

Evaluation of the Utility of a Proposed Method for Correcting for Intrasubject Variability in Metabolic Clearance in the Bioavailability Assessment of Theophylline 113
Yasuji Kasuya, Takashi Furuta, Hiromi Shibasaki, and Hirotaka Shimota

REVIEWERS 1987–1990 117

ANNOUNCEMENTS 121

Journal of Pharmacokinetics and Biopharmaceutics

Vol. 19, No. 2 **April 1991**

CONTENTS

Pharmacodynamic Characterization of the Electroencephalographic Effects of Thiopental in Rats 123
William F. Ebling, Meindert Danhof, and Donald R. Stanski

The Pharmacokinetics and Pharmacodynamics of Ketamine in Dogs Anesthetized with Enflurane 145
Ian M. Schwieger, Fania Szlam, and Carl C. Hug, Jr.

The Pharmacokinetics of Aspirin in Rats and the Effect of Buffer 157
Chauhwei J. Fu, Srikumaran Melethil, and William D. Mason

Prediction of the Renal Clearance of Cimetidine Using Endogenous *N*-1-Methylnicotinamide 175
Amor Maiza and Peter T. Daley-Yates

Physiologic and Metabolic Influences on Enterohepatic Recirculation: Simulations Based Upon the Disposition of Valproic Acid in the Rat 189
Gary M. Pollack and Kim L. R. Brouwer

Optimal Tumor Targeting by Antibodies: Development of a Mathematical Model 227
Michael J. Chappell, Gillian D. Thomas, Keith R. Godfrey, and Arthur R. Bradwell

BOOKS RECEIVED 261

ANNOUNCEMENTS 263

Journal of Pharmacokinetics and Biopharmaceutics

Vol. 19, No. 3 **June 1991**

CONTENTS

The Kinetics of Flurbiprofen in Synovial Fluid 265
Leon Aarons

Theoretical Model for Both Saturable Rate and Extent of Absorption: Simulations of Cefatrizine Data 271
William R. Couet, Bruno G. Reigner, Jean-Paul Guedes, and Thomas N. Tozer

Mathematical Model for *in Vivo* Pharmacodynamics Integrating Fluctuation of the Response: Application to the Prolactin Suppressant Effect of the Dopaminomimetic Drug DCN 203-922 287
Patrice Francheteau, Jean-Louis Steimer, Claude Dubray, and Daniele Lavene

An Initial Slope Method for Model Structure: Independent Estimation of the Elimination Rate Constant of a Metabolite 311
Vladimir K. Piotrovskii

PHARMACOMETRICS

Mean Time Parameters for Generalized Physiological Flow Models (Semihomogeneous Linear Systems) 319
Davide Verotta and Lewis B. Sheiner,
with an Appendix by *Stuart L. Beal*

Designs for Population Pharmacodynamics: Value of Pharmacokinetic Data and Population Analysis 333
Yukiya Hashimoto and Lewis B. Sheiner

COMMENTARIES

Application of a Linear Recirculation Model to Drug Targeting 355
Alan V. Boddy and Leon J. Aarons

Comparison and Critique of Two Models for Regional Drug Delivery 363
Ronald A. Siegel, Roderick D. MacGregor, and C. Anthony Hunt

Response to Siegel *et al.* 373
Alan V. Boddy

ANNOUNCEMENTS 375

Journal of Pharmacokinetics and Biopharmaceutics

Vol. 19, No. 4 **August 1991**

CONTENTS

A Three-Step Approach Combining Bayesian Regression and NONMEM Population Analysis: Application to Midazolam 377
P. O. Maitre, M. Bührer, D. Thomson, and D. R. Stanski

A Pharmacokinetic Model Describing the Removal of Circulating Radiolabeled Antibody by Extracorporeal Immunoadsorption 385
Claudia Hartmann, Duane C. Bloedow, David G. Dienhart, Ravindra Kasliwal, Tim K. Johnson, Rene Gonzalez, and Paul A. Bunn, Jr.

Optimal Extravascular Dosing Intervals 405
Peter Veng-Pedersen and Nishit B. Modi

Stepwise Determination of Multicompartment Disposition and Absorption Parameters from Extravascular Concentration–Time Data. Application to Mesoridazine, Flurbiprofen, Flunarizine, Labetalol, and Diazepam 413
John G. Wagner, Derek A. Ganes, Kamal K. Midha, Iraida Gonzalez-Younes, J. Chris Sackellares, Larry D. Olson, Melton B. Affrime, and James E. Patrick

PHARMACOMETRICS

Estimating the Postantibiotic Effect: A Two-Phase Mathematical Model 457
Marshall N. Brunden, Betty H. Yagi, Michael S. Lajiness, and Gary E. Zurenko

LETTER TO THE EDITOR

Necessary Modification of Formulae Estimating the Reabsorption Rate for Drugs Subject to Enterohepatic Recirculation 469
Masahiro Kurita

PERSPECTIVES IN PHARMACOKINETICS

Area Under the Curve, Bioavailability, and Clearance 473
Aldo Rescigno and Antonio Marzo
with Commentary by *James S. Beck*

Journal of Pharmacokinetics and Biopharmaceutics

Vol. 19, No. 5 **October 1991**

CONTENTS

A Population Analysis of the Pharmacokinetics and Pharmacodynamics of Midazolam in the Rat 485
Leon Aarons, Jaap W. Mandema, and Meindert Danhof

Maximum Entropy and Drug Absorption 497
M. K. Charter and S. F. Gull

Two-Compartment Basophil Cell Trafficking Model for Methylprednisolone Pharmacodynamics 521
Jeffrey A. Wald, Daniel E. Salazar, Haiyung Cheng, and William J. Jusko

A Kinetic-Dynamic Model to Explain the Relationship Between High Potency and Slow Onset Time for Neuromuscular Blocking Drugs 537
François Donati and Claude Meistelman

System Analysis in Multiple Dose Kinetics: Evidence for Saturable Tubular Reabsorption of the Organic Cation N^1-Methylnicotinamide in Humans 553
Willi Weber, Susanne Toussaint, Michael Looby, Manfred Nitz, and Helmut Kewitz

Model Representation of Salicylate Pharmacokinetics Using Unbound Plasma Salicylate Concentrations and Metabolite Urinary Excretion Rates Following a Single Oral Dose 575
J. Shen, S. Wanwimolruk, R. D. Purves, E. G. McQueen, and M. S. Roberts

Disposition of Prednisone and Prednisolone in the Perfused Rabbit Liver: Modeling Hepatic Metabolic Processes 597
Victoria G. Hale, Kazumasa Aizawa, Lewis B. Sheiner, and Leslie Z. Benet

ANNOUNCEMENTS 615

Journal of Pharmacokinetics and Biopharmaceutics

Vol. 19, No. 6 **December 1991**

CONTENTS

Estimation of Amobarbital Plasma-Effect Site Equilibration Kinetics. Relevance of Polyexponential Conductance Functions 617
Jaap W. Mandema, Peter Veng-Pedersen, and Meindert Danhof

An Approximate Model-Independent Method to Maintain Constant Plasma Levels of Intravenous Drugs 635
James M. Bailey

Pharmacokinetics and Bioavailability of Diclofenac in the Rat 647
José-Esteban Peris-Ribera, Francisca Torres-Molina, M. Carmen Garcia-Carbonell, Juan Carlos Aristorena, and José M. Pla-Delfina

Moment Analysis of Drug Disposition in Kidney. VI: Assessment of *In Vivo* Transmembrane Transport of *p*-Aminohippurate in Tubular Epithelium 667
Yan-Ling He, Yusuke Tanigawara, Akira Kamiya, and Ryohei Hori

Semiparametric Analysis of Non-Steady-State Pharmacodynamic Data 691
Davide Verotta and Lewis B. Sheiner

Reversal of Neuromuscular Blockade in Humans by Neostigmine and Edrophonium: A Mathematical Model 713
Davide Verotta, Jack Kitts, Rita Rodriguez, James Coldwell, Ronald D. Miller, and Lewis B. Sheiner

ANNOUNCEMENT 731

AUTHOR INDEX TO VOLUME 19 733

SUBJECT INDEX TO VOLUME 19 735